

CLAIMS

We claim:

1. A method for communicating real-time to users of an Internet service provider, comprising the steps of:

- 5 a. Inserting a redirecting device in the path of web traffic from the user;
- b. Identifying the user by using data available from the user and provider infrastructure to provide a fixed identifier;
- c. Providing the fixed identifier to a consolidating and management device; and
- d. Selectively transmitting a message to the user for display on the message vehicle.

10 2. The method of claim 1, wherein the message vehicle is a pop-up window on the user PC's browser.

 3. The method of claim 1, further including the step of transmitting to the user a vehicle for displaying and communicating a message from the consolidating and management device to the user.

15 4. The method of claim 1, wherein the insertion step includes web cache control protocol.

 5. The method of claim 1, wherein the insertion step includes switching mechanisms in an existing ISP router or switch.

 6. The method of claim 1, wherein the message vehicle is a prompt provided on the user PC.

7. The method of claim 1, wherein the fixed identifier is a unique identifier of the user, such as a modem address.
8. The method of claim 1, wherein the message is transmitted in response to an event determined by the redirecting device.
- 5 9. The method of claim 1, wherein the user is identified to belong to a defined group of users and wherein the message is selectively sent to a pre-selected user group.
10. The method of claim 1, wherein the redirecting device is adapted for working through Web browsers irrespective of the World Wide Web destination sought by the user identifier.
- 10 11. The method of claim 10, wherein the redirecting device returns the user to the original World Wide Web destination after the message has been transmitted.
12. The method of claim 1, wherein the redirecting device is adapted for working with multiple types of content.
13. The method of claim 1, wherein the redirecting device comprises a hardware device that 15 can be simply connected at various points, in plurality, in a provider infrastructure.
14. The method of claims 13, further including a plurality of redirecting devices.
15. The method of claim 13, further including the step of providing optional fail-safe operation of each device such that failure does not disrupt other normal browsing and Internet activity of the user but results only in an interruption of bulletin delivery.

16. The method of claim 1, wherein the redirecting device comprises a software system installed on a computer system that is connected at various points, singly or in plurality, in a provider infrastructure.
17. The method of claims 16, further including a plurality of redirecting devices.
- 5 18. The method of claim 16, further including the step of providing optional fail-safe operation of each device such that failure does not disrupt other normal browsing and Internet activity of the user but results only in an interruption of bulletin delivery.
19. The method of claim 1, further including the step of defining a specific policy for controlling the selective transmission of messages to the user.
- 10 20. The method of claim 19, further including the step of defining a policy Web or other page information.
21. The method of claim 19, further including the step of defining a policy that includes timing and frequency of delivery.
- 15 22. The method of claim 19, further including the step of defining a policy for activating the redirecting device to deliver a message in response to other user activity.
23. The method of claim 22, wherein the activity comprises a defined destination.
24. The method of claim 22, wherein the activity comprises the amount of activity by the user.
25. The method of claim 22, wherein the activity comprises a requests carrying the signature of virus contamination.

26. The method of claim 1, further including the step of generating a plurality of independently designated policies to be delivered correctly to the user even if some policy events invoke in simultaneity.
27. The method of claim 26, wherein the redirecting device includes the ability to acquire the knowledge of the policies and the identifier when a Web or other request is detected with only an identifying IP address.
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28. The method of claim 27, wherein the redirecting device is adapted for minimizing the overhead of acquiring user parameters through caching of that information for a determined portion of the time during which the protocol announces it as valid.
- 10 29. The method of claim 1, wherein the redirecting device is adapted for use in connection with a consolidating system management device for permitting a group of system devices to be viewed by the provider as a single system.
30. The method of claim 1, wherein the identifier step uses the enforced delivery of a Web page to be used in the distribution and subscription of new users without prior knowledge of the serial numbers associated with the new user's interface equipment and without requiring the user to utilize special software.
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31. The method of claim 30, further comprising the step of using the enforced delivery of a Web page to reduce the volume of telephone support requests by the enforced pre-announcement of known, future system outages due to scheduled maintenance.
- 20 32. The method of claim 30, further comprising the step of using the identifier for detection of "signature" forms of Internet packets that indicate the presence of undesirable content.

33. The method of claim 32, wherein the undesirable content is a virus.
34. The method of claim 32, further including the step of transmitting a message identifying the undesirable content to the provider.
35. The method of claim 32, further including the step of transmitting a message identifying the undesirable content to the user.
36. The method of claim 34, further including the step of logging the undesirable content identifying message.
37. The method of claim 31, wherein the transmitting step includes enforcing the delivery of other user-beneficial information that is currently displayed on the manually accessed provider information Web site.
38. The method of claim 19, further including the step of logging successful implementation of policies to each user.
39. The method of claim 19, further including the step of logging interactive responses that have been requested within the policy.
40. The method of claim 19, further including the steps of detecting and logging the number of simultaneously requested Web connections.
41. The method of claim 40, further including the step of flagging users that are utilizing more than one simultaneous device per subscription.
42. The method of claim 19, further including the step of transmitting explanations to be issued, in an enforced manner, to subscribers, after a service interruption, in such a

manner as to alleviate customer dissatisfaction by illuminating and explaining the problem and the efforts that are to be taken in the future to eliminate such problems.

43. The method of claim 1, wherein the inserting step includes inserting a redirecting device in the path of web traffic from the user through an ISP.

5 44. The method of claim 1, wherein the inserting step includes inserting a redirecting device in the path of web traffic from the user through an aggregation router.

45. The method of claim 1, wherein the inserting step includes inserting a redirecting device in the path of web traffic from the user through a CMTS.

46. The method of claim 1, wherein the inserting step includes inserting a redirecting device 10 in the path of web traffic between a Network Address Translator (NAT) and an ISP.

47. The method of claim 46, wherein the NAT is connected to a Wi-Fi network.

48. The method of claim 47, wherein the Wi-Fi is adapted for accommodating a plurality of users.

49. The method of claim 48, wherein the redirecting device is further configured to identify 15 each of the plurality of users on the Wi-Fi network.

50. The method of claim 49, wherein the redirecting device identifies each of the plurality of users by performing the following steps:

a. temporarily redirecting the each active user to a visible or non-visible, null-Web page that sets a cookie with the required information to identify the action and user in the future;

b. capturing the identity and previous activity flagged by the set cookie.

5 51. The method of claim 50, further including the step of sending a selected message to a selected one of the identified users.

52. The method of claim 46, wherein the redirecting device identifies each of the plurality of users by performing the following steps:

10 a. temporarily redirecting the each active user to a visible or non-visible, null-Web page that sets a cookie with the required information to identify the action and user in the future;

b. capturing the identity and previous activity flagged by the set cookie.